THE FORTYMILE COUNTRY

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A Historical Study
of the
Fortymile Mining District

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PREFACE

The Alaska Native Settlement Claims Act of 1971 directed the Secretary of the Interior to study the Fortymile River for possible inclusion in the National Wild and Scenic Rivers System.

As the study of the Fortymile River commenced, it became readily apparent that a primary value of the river and its basin was its historical resource. It was known that the Fortymile country played a significant role in the development of Alaska; but no where could be found a concise narrative which placed the Fortymile into a historical perspective with the rest of Alaska.

Thus, the purpose of this report: to identify the historical resource of the Fortymile River basin for input into the wild and scenic river study.


CANADA
UNITED STATES
ARCTIC CIRCLE
YUKON
PORCUPINE
RIVER
Fort Yukon
Venetie
Arctic Village
Beaver
Birch Creek
Stevens Village
Circle
Circle Springs
Woodchopper
Nenana
FAIRBANKS
Minto
Dunbar
Ferry
Tanana
Nenana
Healy
Denali
Cantwell
Dawson
Dawson Creek
Whitehorse
Tok
Tetlin
Northway Jct
Boundary
Chistochina
Nabesna
Glennallen
Copper Center
Palmer
Wasilla
Big Lake
Willow
Talkeetna
Montana
Kashwitna
Susitna
Anchorage
Eagle River
Chugach
Girdwood
Portage
Whittier
Tyonek
Kenai
Soldotna
Sterling
Cooper Landing
Hope
Seward
Moose Pass
Kenai
Nikiski
Nikolaevsk
Homer
Kachemak Bay
Anchor Point
Ninilchik
Kasilof
Cordova
Valdez
Chitina
McCarthy
Kennecott
Nizina
Tonsina
Lower Tonsina
Copper River
Prince William Sound
Knight I
Hinchinbrook I
Montague I
Hinchinbrook Entrance
Controller Bay
Katalla
Alaganik
Bering Glacier
Bagley Ice Field
Cape Yakataga
Cape Suckling
Icy Cape
Icy Bay
Malaspina Glacier
Yakutat Bay
Ocean Cape
Kayak I
Cape St Elias
Cape Clear
Middleton Island
Pye Is
Nuka I
Gore Pt
Kenai Mountains
Chugach Mountains
Wrangell Mountains
Alaska Range
Talkeetna Mountains
Nutzotin Mountains
Mentasta Mountains
Delta River
Tanana River
Nenana River
Susitna River
Yukon River
Kuskokwim Mountains
Denali National Park
Mount McKinley
Mount Foraker
Mount Hunter
Mount Deborah
Mount Hayes
Mount Wrangell
Mount Sanford
Mount Drum
Mount Sanford
Mount Blackburn
Mount Sherman
Mount Moffit
Mount Fairweather
Mount Witherspoon
Mount Goode
Mount Marcus Baker
Mount Sanford
Mount Bona
Mount Elias
Mount Cook
Mount Logan
Mount Steller
Mount Miller
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A. AREA CHARACTERISTICS

1. Location

The Fortymile district, the oldest mining area in the interior of Alaska, is roughly 70 miles long from north to south and approximately 30 miles wide. It lies roughly between Latitude 64 degrees and 64 degrees and 30 minutes North and Longitude 141 degrees and 142 degrees and 20 minutes West. The Fortymile River drains a fairly large area and receives several large tributaries. It is the largest stream within the district and carries the most water. Notwithstanding the abundance of water, the swiftness and shallowness of the stream make it rather difficult for navigation. All the streams in the area, except the Fortymile, can be forded on foot at ordinary water stages. Water levels vary greatly because of the direct relationship which exists between the amount of water carried and the rainfall. Since most of the ground is permanently frozen, runoff occurs very quickly. A few days of dry weather quickly lowered the water level and rendered mining difficult.

The Fortymile River joins the Yukon about 30 miles above the international boundary. The mouth of the river, therefore, lies in the Canadian Yukon. The drainage basin, however, lies for the most part, on the Alaskan side.[1]

2. Climate

The area is subject to typical Arctic continental climate, with warm summers and severe winters. Extended periods of 50° to 60° below temperatures are fairly common and even -75 has been recorded. Summers are warm and temperatures reach the 80's and even 90's each year. Yet, despite high summer temperatures, diurnal variations may be extreme and freezing temperatures may and have occurred in each month of the year.

Precipitation mostly occurs in the normal form of convection showers, and snowfall averages approximately 45 inches per annum. Because of the cold temperatures, snow accumulations on the ground approach this average as well.

3. Vegetation

The many valleys in the area have been shaped by the streams which flow through them, and the narrow, deeply cut appearance of the Fortymile Valley is repeated in the lower valleys of its tributaries. Vegetation consists of spruce trees of considerable size which dominate the valleys of the large streams and creep up the slopes to the treeline, but aspen and birch are common as well. In addition, thickets of alders and willows line many of the stream banks. The higher ridges are covered with a thick carpet of moss. [2]

B. NATIVE OCCUPATION

In prehistoric times and right up to the present Athabascan-speaking Indians of various tribes occupied localities along the Yukon, Porcupine, and Tanana Rivers. As far as can be ascertained, however, the Fortymile area itself did not contain any old native settlements, although the area was traversed often in search of game.[3] In 1930 a geologist for the United States Geological Survey reported Kechumstuk, on Kechumstuk Creek near its junction with the Mosquito Fork of the Fortymile, as a native village. He gave no population figures, but reported that a white man had a cabin at Kechumstuk and a homestead farther up Mosquito Fork where he put up hay in the summer for the use of his own and other stock at Chicken during the winter.

C. EARLY HISTORY OF GOLD MINING

1. Pre-Fortymile

It was gold mining which made the Fortymile area prominent, and a historian can in good conscience assert that the whole madness of the gold rushes started when James Wilson Marshall discovered gold on the South Fork of the American River in California on January 24, 1848. Marshall, employed by John Sutter to build a sawmill, noticed bits of yellow metal in the millrace. He showed some to Sutter and together they tested the find and convinced themselves that it was gold. Despite attempts to keep it a secret, the news spread rapidly and before long the first great gold rush began.

Actually gold was not unique to California. North Carolina had produced some as early as 1792, and five states along the Appalachian Mountain Range had produced the precious metal as well. Yet the entire United States production between 1792 and 1847, on the eve of the California rush, had amounted only to some 1,525,000 fine ounces with a value of $31,521,750. In 1849 alone, 1,935,000 fine ounces were mined worth some $39,996,450.[4]

Prospectors soon began to look high and wide for the yellow metal and ranged extensively through Nevada and Colorado, the Dakotas, Montana, Washington, Idaho and northward into British Columbia. Small gold finds had been reported from both the Yukon and Kuskokwim Rivers in Russian America before Marshall's California find. It was Peter Doroshin, however, a graduate of the Imperial Mining School at St. Petersburg, who, in 1851 or 1852, washed out some gold along the Russian River, a tributary of the Kenai River.

In 1857 prospectors found gold at the confluence of the Fraser and Thompson Rivers in British Columbia. By that time disappointed California miners flocked northward, followed the Fraser River toward its headwaters, and discovered gold in the Cariboo District in 1860. In 1861 Alexandre "Buck" Choquette ascended the Stikine River and found gold near Telegraph Creek at "Bucks Bar". In the early 1870's gold was also discovered in the Cassiar and from there miners filtered into southeastern Alaska, since acquired by the United States from Russia in 1867 and renamed. This movement of men eventually led to the discovery of gold in Silver Bow Basin and the founding of Juneau in 1880.

By 1880 a few white men were known to be on the upper Yukon. Some had reached the region overland from the Mackenzie River, others had shipped out to St. Michael at the mouth of the Yukon River and ascended it. Still another route began at the head of Lynn Canal and crossed Chilkoot Pass. This was an ancient trade route between the coast and the interior, jealously guarded and monopolized by the Chilkat Indians. As early as 1869 Alaskan military commander General Jefferson C. Davis had dispatched mail from Sitka to Captain Raymond and his expedition at Ft. Yukon by way of the Chilkoot Pass. No conflict had ensued because the general had possessed the foresight to employ Chilkat Indians as mail carriers and he had not tried to open the route for white traffic. In 1875 one George Hold apparently crossed Chilkoot Pass and found some gold on the Yukon. Finally, with the help of Lt. E. P. McClellan of the Jamestown a party of some 19 miners under the leadership of Edmund Bean crossed the Chilkoot Pass at the end of May, 1880. This event marked the official opening of the Pass.[5]

Each year from 1880 onward men crossed the divide in increasing numbers. Among them was Arthur Harper, a prospector turned trader. Together with Al Mayo and LeRoy Napoleon McQuesten, the trio helped open up the Yukon Valley for the increasing number of prospectors. They built their first post and named it Ft. Reliance. This supply post quickly became the focus for future river settlements, and several neighboring tributaries of the mighty Yukon took their names from the distance which separated them from Ft. Reliance. The Fortymile River as well as the Twelvemile received their names because they joined the Yukon that distance downstream from Ft. Reliance. The Sixtymile was located that distance upriver from the fort. Later on the settlements which grew at the mouths of these rivers took the same name.

A decade later a fourth man, Joseph Ladue, became a trader. It was these four men who established trading posts along the Yukon and thus enabled prospectors to systematically explore the river country.

2. Fortymile District (1886-1907)

By 1886 some 200 miners had gradually worked their way some 300 miles down the Yukon to the mouth of the Stewart River. There, McQuesten and his partners built a trading post. That winter Arthur Harper convinced two prospectors to explore the waters of the Fortymile River which joined the Yukon 100 miles farther downstream. They found gold late in the season and a minor stampede ensued.[6]

They discovered gold on the bars of the Fortymile River at Franklin Creek which was so named after Howard Franklin, the discoverer. From this time the Fortymile became a steady, if not spectacular, producer until the 1950's. In 1887 prospectors found gold placers in Franklin Gulch, and in the spring of 1888 discoveries were made on Davis Creek, a headwater tributary of Walker Fork. In the following year miners struck pay dirt on Poker Creek, another headwater tributary, as well as the main Walker Fork. Further discoveries in 1892 east of the international boundary on Miller and Glacier Creeks which head against Walker Fork and drain southeastward to the Sixtymile River attracted numerous miners. This new influx of men

brought about additional discoveries, and mining activities began on Dome Creek in 1893, while the placers of Wade Creek were first located in 1895, and those of Chicken Creek were discovered in the spring of 1896. In short, most, if not all of the valleys where productive placers existed had been located within 10 years after the minor stampede of 1893. Prospectors apparently thoroughly examined the Fortymile district in the 1890's, because few additional deposits were found in subsequent years.

To return to 1886, news of the discovery was certain to spread more widely in the spring of the following year, and Harper therefore decided to notify McQuesten, then the agent of the Alaska Commercial Company who wintered in San Francisco that year and ask for an increase in the supply shipment. George Williams, a former river captain, volunteered to carry the letter with the request over the Chilkoot Pass to tidewater. Williams and his Indian guide, after many hardships, reached Taiya where Williams died from the effects of exposure he had suffered. The letter, however, reached McQuesten.

Soon the settlement of Fortymile grew on the high bank at a point where the Fortymile River joins the Yukon. During the first year miners took out an estimated $4,000 worth of gold.

In the spring of 1888 came the discovery of Davis Creek and men flocked to the new site from Franklin Gulch. Other gold finds followed rapidly. In 1889 Poker Creek and the headwaters of Walker Fork were staked by eager miners. In 1892 O. C. Miller staked Miller Creek, located for its whole length in the Yukon Territory. In 1893 miners opened many additional claims, and it was estimated that some 80 men took out some $100,000 worth of gold. Miller Creek, although prospected before, had not hitherto been worked because the gravel was so deep that the labor needed to strip the toplayers made it unprofitable. Miller Creek rapidly became the largest producer for a considerable time.

In 1893, the creeks in the Fortymile district, including Fortymile, Nugget, Piker and Franklin Gulches, Davis Creek and Bettle's Mine were inhabited by some 116 miners who had produced some $98,000 worth of gold. Miller Creek, as previously mentioned entirely located in the Yukon, had a mining population of some

80 men and had produced approximately $100,000 worth of gold. By 1894 gold production in the Fortymile area had risen to $400,000, but Miller Creek still yielded the largest output, although Franklin Gulch and Napoleon and Glacier Creeks made good showings.[7]

In the summer of 1893 two miners, Pitka and Sorresco, who had previously worked in the Fortymile, discovered gold on Birch Creek. The news of the strike encouraged many men in the Fortymile to seek their fortunes in the new district. Some 80 miners left and went down the Yukon where they built cabins along the river and wintered. In the spring the Yukon overflowed its banks and swept away some of the cabins. The inhabitants therefore moved to higher ground some 12 miles down river and built the settlement of Circle City. By 1895 the center of the footloose mining population had shifted from Fortymile to Circle City which quickly became the most important settlement in the interior with an estimated population of 700 as compared to the 600 left in the Fortymile.

In 1895 the gold production in the Fortymile had fallen to $300,000, a decline of $100,000 from the previous year. By 1896 the Fortymile, despite a six-week summer drought which idled many men and had made it impossible to run the sluices in most of the gulches, had somewhat recovered. Some 700 men worked the gulches and bars and produced approximately $460,000 worth of gold. Yet despite the temporary recovery, the Fortymile continued to lose population as miners were lured to new locations, and in the latter part of August of 1896, this trend accelerated when Fortymilers heard of rich new placers on the Klondike River. As a consequence of the new strike, Fortymile was almost deserted during the winter of 1896-97.[8]

3. Mining Techniques

By the mid-1890's, most miners had come to fully realize the difficulties of mining in Alaska. Short summers and long, cold winters imposed severe restrictions on the length of the mining season. With breakup occurring approximately in the middle of May, miners were hard at work by the first of June after the end of the flood season. Winter came early at the end of September. The ground as well as the creeks and rivers froze over and most

work had to be suspended.

A number of ways of extracting the gold from the ground were utilized by the men by the 1890's. In the bar diggings the material containing the gold consisted largely of coarse, round pebbles as well as finer materials, all of which had to be removed from the heavier gold. This was done with water applied in various ways or finally by air applied by bellows.

The gold pan, operated by hand, was the simplest device used to cull the gold from the gravel. The cradle, a more sophisticated tool, consisted of a long, narrow box with an upper and a lower compartment. The floor of the upper one usually was constructed of metal and riddled with holes of the proper size. Miners shoveled the pay dirt into the upper end, and the cradle was moved back and forth upon the rockers on which it was mounted. The movement sifted the gravel. The finer material passed through the holes into the lower compartment, while the coarser, containing little or no gold, passed out of the box as "tailings". The floor of the lower compartment consisted simply of an inclined plane. The surface, roughened or corrugated in various ways, such as by the use of cleats, wooden riffles or

corrugated metal sheeting, caught the fine gold. The lighter material was washed out of the box in streams of water.

In the gulches conditions were quite different than on the bars. Gold usually occurred in a small channel at the bottom of the gulch, in gravel between three to four feet to a few inches thick. Often the bedrock at the junction with the gravel contained gold as well. The pay dirt, after it had been uncovered, was loaded into a long, slightly inclined trough, called a sluice, constructed of boards, and the water in the bed of the gulch was diverted into this device. The gravel was washed out while the heavy gold sank to the bottom of the sluice and was captured by the slats or riffles built into the last few boxes. [9]

By the mid-1890's, miners had also learned to utilize the cold months of the season productively. They thawed the frozen ground by building fires fed by timber. By burning and drifting, the men sank shafts until they hit pay dirt. Once there, they hauled the rich gravel to the surface and stored it until water again became available and the winter's accumulation could be washed out.

4. General Conditions of Miners, Transportation

Miners not only had to contend with a harsh climate and isolation, but with an extremely high cost of living as well. Since the area generally did not support agriculture, save for a few vegetable gardens, inhabitants depended on supplies brought in from the "Outside". Vast distances with accompanying high freight rates as well as the virtual absence of any competition drove prices to ridiculous heights. Wages, as high as $10 and even $12 per day in the more remote gulches for a 10 hour day hardly compensated for inflated prices. During the cold season, wages generally declined to approximately $5-$8 for a 6-hour day. In short, it was difficult for a laborer to make ends meet under the best of circumstances. Often, failure of supplies to arrive during the open season forced most miners to hunt uncertain game supplies to fend off literal starvation.[10]

By the first decade of the 20th century, Eagle on the Yukon River had become the main supply base on the Alaskan side of the boundary. For a long time, however, many of the mining localities could more easily be supplied from Dawson in the Yukon. Most of the Fortymile miners bought their outfits in

Dawson and sledded them by horsedrawn sleighs up the frozen Fortymile from where they were delivered to the more remote creeks and tributaries. During the winter of 1906-07 several hundred tons of dredge parts were shipped via this route and assembled in 1907 on Walker Fork, about a mile above the mouth of Franklin Creek. During the same year another dredge was constructed on Pump Bar of the Fortymile, about two miles below the mouth of Franklin Creek; still another dredge operated on the Fortymile at Boundary, and yet another worked Sour Dough Bar of the Fortymile about four miles above the mouth in Canadian territory.

The freight rate to Franklin Creek amounted to approximately $70 per ton. During the summer months supplies were delivered by poling boats, a slow and laborious method, because long stretches of quiet water were separated by bedrock riffles where the water was swift and shallow. Rates from Fortymile Post on the Yukon to the farthest point to which supplies were freighted by this method, Chicken Creek, came to $.25 per pound in 1907.

From Dawson to Glacier, a distance of approximately 60 miles, there existed a summer wagon road over which supplies were

carried to creeks on the Alaskan side of the boundary. Additionally, the road commission had surveyed a government wagon road from Eagle to the Fortymile country and by 1907 had completed about nine miles, from Eagle to American Creek. Mail was carried from Eagle to Valdez by way of the Fortymile country. Packtrains were used during the summer, but because of the large mail-order business from the miners, the mails were always overtaxed.[11]

D. AREAS OF MAJOR DEVELOPMENT

Mining in the Fortymile area developed around six separate areas, namely at Dome, Steele, Wade, Franklin and Chicken Creeks, and at the headwaters of Walker Fork of the Fortymile River. Miners utilized three approaches to the district, namely from Eagle to the north; from Fortymile to the northeast; and from Dawson to the east. Summer freight rates from Eagle to Steele Creek, Jack Wade, and Chicken during the late 1920's were, respectively, $.15, $.20 and $.25 a pound, while the corresponding winter rates amounted to $.05, $.06 and $.07. Winter freight delivered to Jack Wade and Chicken from Fortymile in the Yukon Territory cost four and one-half to five cents per pound, but only three and one-half cents per pound to Walker Fork.

During the same period, the late 1920's, a small airfield was constructed at Chicken, and in case of emergencies passengers could be flown from there to Fairbanks or elsewhere in Alaska. Post offices also had been established at Steele Creek, Jack Wade, Franklin, and Chicken, with mail service three times monthly. But the Walker Fork area, situated near the inter-

national boundary east of the main mail route, received its mail by private carrier from Steele Creek. Communication from the Fortymile, however, was slow at best since the area did not possess any telegraphic facilities, and the nearest wireless stations were situated at Eagle and Dawson, some distance away.[12]

E. LOCAL GOVERNMENT

The "miners' meeting" organizations of Juneau, the Fortymile and various other localities in the late 19th century represented examples of the more advanced forms of civic structures created by settlers before any legal base for local government existed. The miners' law was designed to bring some semblance of order to the affairs of prospectors, claimants and mine operators. Although extra-legal, the Organic Act of 1884 explicitly recognized such law and the miners' organizations. As in many other mining areas of the frontier West, the miners' meeting and law helped to fill the local government void. Although romanticized by some observers, the effectiveness of the miners' meetings in Alaska, and elsewhere, should not be exaggerated since the practice in American mining towns often tended more toward mob rule rather than justice. Moreover, because it was only an expedient arrangement for the adjudication of mining disputes, the miners' meeting had a very limited application and lasted only as long as the mining enterprise endured. One observer of the Alaskan scene, Harold B. Goodrich, had this to say:

> The miners' meeting is the only government in the interior of Alaska, but it appears nearly to have outlived its usefulness, and with the growth of the country and the introduction of

> a class of nonproducing adventurers, attracted by the hope of making fortunes at the expense of the producers, it is fast becoming a mockery. The better class of miners have already objected to having disputes occurring in the gulches settled in town, for the greater preponderance of the disreputable class in the latter makes it almost impossible to obtain justice there. Again, while perfectly well intentioned, the miners are often not the ones best fitted to decide cases impartially. [13]

Goodrich was entirely correct in his observations, because soon the growth of mining towns and districts revealed the inadequacy of the miners' meeting and the need for a more substantial form of government to insure peace and order, to guarantee local justice, and to provide the services needed by communities. Congress responded in part when it passed an act in 1899 which gave Alaska a criminal code, although the local and district governmental machinery needed to enforce it still were lacking.[14] With the passage of an "Act making further provisions for Civil Government..." in 1900 Congress began to deal seriously with the problem of structuring a governmental system for Alaska. Yet the North Country was much too remote and its population far too small and transient to worry Washington overly much. The structures provided were minimal, and from that time onward, until the achievement of statehood in 1958, Congress passed a series of measures which provided for, but

concurrently also imposed special restrictions on and rigid definitions of, the form, powers, and functions of government at territorial and local levels. Nevertheless, a body of municipal law accrued during this period which proved very durable, and, among other things, took care of miners' needs.

F. ECONOMIC HISTORY (1907-1928)

With the influx of greater number of miners, especially after the great rush to the Klondike in the late 1890's, gold production rose steadily, not only in the Yukon but in Alaska as well. With the passage of time most creeks in the Fortymile were prospected by the restless argonauts and rapidly came into production. Gold production from the Fortymile district between 1886, the year of discovery, to 1903 amounted to approximately $4,000,000, and between 1904 and including 1909, another $1,282,000 worth of gold was produced. Dredges were introduced in 1907, and by 1909 two had operated throughout the season, one on Walker Fork and the other on the South Fork of the Fortymile River. In the winter of 1908-1909, some 34 claims on Walker Fork, Jack Wade and Chicken Creeks were worked by 80 men who produced $35,000 worth of the yellow metal. During the summer of 1909, some 95 men worked 25 claims on Walker, Jack Wade, Chicken, Franklin and Canyon Creeks and produced some $166,000 worth of gold. In addition, Ingle Creek and Lilling Gulch, a small tributary of the former, were also mined by drifting and open-cut work. On Napoleon Creek both drifting and open cuts were employed. A total estimated value of $225,000 was taken from

the Fortymile in 1909, a gain of some $75,000 over 1908, chiefly due to improved mining methods.[15]

In 1910 gold production sank to $200,000, a loss of $25,000 from the previous year. Experts attributed the decline to the extremely dry summers and the attending inadequate water supply available during the 1910 season. In addition, although five different dredges had been operating on the Fortymile and its tributaries, they generally had not been as successful economically as had been hoped, although it had been difficult to exactly pinpoint the failures. One of the main reasons for the poor showing, however, had been a lack of proper prospecting to determine the gold content of the available ground before the installation of the dredges.

There were exceptions. The dredge on Walker Fork near Poker Creek had a good season. Men worked ahead of the dredge and stripped the ground of overburden. The operators hoped that the stripping would aid in the thawing process and ready the ground for future dredging. The Walker Creek dredge was steam powered, its energy produced by wood. The rapacious appetite of the dredge, however, had quickly depleted the supply

of readily available wood which, in 1910, had to be hauled several miles, a distinct economic disadvantage. Around 1910 the owners of the small Walker Fork dredge moved it to a new location to the Fortymile River just below Franklin Creek. Known as the "Mulvain Dredge" in its new location, the operators derived a good profit, particularly when they mined the ground on the Fortymile River below the mouth of Franklin Creek. Once it passed the mouth of Franklin Creek and worked upstream on the Fortymile River, however, gold production fell off sharply because Franklin Creek had been the source of the gold feeding into the Fortymile River. It rapidly became unprofitable and was shut down in 1914.[16]

About six or seven men each performed considerable work on both Davis and Poker Creeks during the same season. They recovered gold by ground sluicing and shoveling into sluice boxes, but no winter work had been done. Two men spent the summer and prospected Walker Fork below Cherry Creek to determine the possibilities for moving in a dredge, and some prospecting also took place on Cherry Creek.

On Canyon Creek, approximately three miles below Squaw Gulch, a one-half yard capacity steam scraper, drawn by a 45 horse-power boiler connected with a double-drum hoist operated in the later part of the 1910 season. This piece of machinery allowed the movement of roughly 150 cubic yards of gravel in a 10 hour work day, employing some 8 men. In the early part of the season, a smaller scraping plant operated just below the mouth of Squaw Gulch, and on the latter itself, three to four groups of one to three men each mined by open-cut methods during that summer.

Production on Wade Creek was greatly hampered by inadequate water supplies, but some 41 men worked 18 claims during the winter, and 24 men utilized open-cut methods on 10 claims during the summer. Chicken Creek and its tributaries also suffered from lack of water and most operations were suspended for the better part of the season. For short periods during the season, 2 outfits, employing 6 men each, drifted and 11 men performed open-cut work on 4 claims. In the same area, 3 men each worked 10 different claims and had divided their work roughly between winter and summer. On Myers Fork seven men mined on three claims at different times of the year. Ingle,

Franklin and Napoleon Creeks employed approximately 13 men. Other streams and creeks in the district, such as Hutchinson and its two tributaries, Confederate and Montana Creeks, as well as bars on the Fortymile River near the mouth of Twin Creek employed approximately another 12 to 15 men.[17]

The 1911 season proved to be a discouraging one for many of the smaller operators in the Fortymile because of the continued shortage of water. Dredges and larger enterprises, however, were more successful. Two dredges operated on the headwaters of the Fortymile River and employed numbers of men thrown out of work by the continued drought and the army's abandonment of Ft. Egbert at Eagle. On Dome Creek the Auburn Gold Mining Co. had built extensive ditches preparatory for hydraulic mining to develop the higher placer grounds along the creek. During the 1911 season a small ditch operated and company officials planned an extension which eventually was to yield the entire flow of Dome Creek. Future plans even called for a 5 mile ditch with a 20 second feet capacity. Other ditches for hydraulic work were either in the construction and planning stages on Dennison Fork and Franklin and Twin Creeks.

In the same summer, J. V. Anderson built several hundred feet of ditch to tap a small creek. He expected to wash out the gold in the bench lands on the right bank of Dennison Fork near its mouth during the spring runoff in 1912. On Walker Fork the upper Mulvain dredge completed a successful season, although for about three weeks in August there was hardly enough water to float the dredge.[18]

In the 1912 season approximately 143 miners worked in the Fortymile district, and geologists with the U.S.G.S. expected these men to produce some $230,000 worth of gold, up slightly from the $200,000 the district had yielded in both 1910 and 1911.

Although prospectors had found gold quartz on Mosquito Fork and copper ore at the headwaters of Ketchumstuk Creek, a tributary of Mosquito Fork, no development work took place, primarily because of the remoteness of these localities from transportation facilities. Three dredges operated in the Fortymile basin on the American side of the boundary, and one on the Canadian side, while the Canadian Securities Co. Ltd. operated two dredges on the lower part of the Fortymile. The heavier one worked well on the Canadian side, while the second one, located on the

American side of the boundary about a half mile below Moose Creek was too small and light for the relatively large boulders. It broke down frequently and therefore operated unprofitably.

On a claim below Baby Creek, six men operated a bottomless steam scraper of three quarter yard capacity powered by a 40 horsepower boiler. The men sluiced off the muck and then thawed anywhere between two to six feet of gravel with steam points. The miners scraped the last 1-1/2 feet of gravel next to the bedrock up an incline to a platform about 20 feet high and there dumped it into sluice boxes. With this very efficient method approximately 200 years of wet or 250 years of dry gravel were processed per day with a consumption of about one cord of wood. Approximately 11,520 square feet of bedrock were cleaned in this fashion.

Although open-cut and drifting methods were still employed, dredging accounted for the bulk of the production in 1912. Most mining operations closed down for the winter of 1912-1913 although some activity continued on Chicken and Wade Creeks. In addition, workmen dismantled the Walker Fork dredge at the end of the season preparatory for a move over the divide to

Miller Creek in the Yukon Territory where it was to be operated on the claims of the North American Transportation Company.[19]

A lack of water hampered the 1913 season. Nevertheless, 25 mines operated throughout the winter and about 15 during the summer, while the Atwater dredge worked on the south fork of Franklin Creek. In addition there were reports that an unnamed syndicate negotiated for a large number of bench claims on the Fortymile River and planned to develop the necessary water supply to extract the gold.[20]

By 1914 the United States Geological Survey reported that dredges had ceased operations after the 1913 season, probably because the ventures had been too small to be profitable. In addition, operating costs remained high because of inadequate transportation facilities. Some operators considered the possibility of developing electrical power at a mine at Coal Creek in the Canadian Yukon. A power plant already existed at the mine, about 20 miles from where the Fortymile River crossed the international boundary. Dredges were to utilize the electricity for their operations.

Although several companies contemplated the development of large mining ventures, actual mining decreased. Whereas some $100,000 worth of gold came out of the district in 1913, this amount had decreased to an estimated $60,000 in 1914. Nearly all mining operations in 1914 were small, and between 75-100 men worked approximately 25 claims during the summer season. Miners performed some winter work on Wade, Lost Chicken and Chicken Creeks. Winter clean-up of about 10 claims on Wade Creek yielded approximately $9,000 and summer work brought roughly an additional $7,000. With a yield of roughly $15,000 to $25,000 worth in gold, Chicken Creek ranked as the largest producer. Some mining also took place on Walkers Fork, Squaw, Buckskin, Ingle and various other creeks in the district. In addition a dozen men mined the bars of the Fortymile River with rockers during the low water, and men prospected Mosquito Fork for larger placer deposits.[21]

By the late 1920's the Alaska Consolidated Gold Corporation placer mined on the north bench of Dome Creek, about one and one-half miles downstream from the mouth of Little Miller Creek. Operations began in 1922 and steadily extended downstream. The company employed hydraulic methods and had built an

eight mile long ditch to supply the necessary water. In 1928 each square foot of gravel yielded about $.35 of gold.

The Walker Fork Gold Corporation employed about 20 men housed in a camp near the southeastern part of the Fortymile quadrangle approximately 2 miles west of the international boundary. A good ridge trail of 25 miles provided access from Steele Creek, and still another trail from Walker Fork wound its way some 12 miles eastward to Glacier Creek on the Canadian side where it connected with a wagon road to Dawson.

The corporation owned some 14 miles of claims on Walker Fork and mined 10 feet thick gravel near the slopes which decreased to approximately 6 feet in the center of the valley, all under about 1 to 2 feet of overburden. Each square foot of gravel yielded anywhere between $.18 to $.36 of gold.

The corporation used a combination of hydraulic and steam-shovel methods. It had placed elevated sluice boxes at one side of the cut. A Bucyrus steam shovel with a 50 foot boom lifted the gravel and bedrock into the boxes. The hydraulic nozzle moved the gravel from the far edge of the cut inward to where it could

be reached and handled by the wood-powered steam shovel which boasted a bucket with a maximum capacity of one and one-quarter cubic yards and could move about one cubic yard of gravel per minute into the sluice boxes. There were nine sluice boxes, but most of the gold was recovered from the first four.

Two ditches on the north side of the valley furnished the necessary water. The upper ditch stretched for two miles and supplied the hydraulic nozzle, while the one mile lower ditch furnished sluice water and also picked up seepage from the upper ditch.

Mining on Wade Creek had been carried on for over 30 years by the late 1920's. Operators worked most of the claims by drifting in winter and sluiced the gravel dumps in the spring. Charles Martin conducted the biggest operation at a hydraulic plant on claim No. 14 above Discovery, and extracted approximately $.20 worth of gold from the square foot of gravel. Martin derived the necessary water from Wade Creek about a mile upstream from his outfit just below the mouth of Gilliland Creek, a small tributary from the north. Three men operated the plant in both day and night shifts in the 1928 season. Martin had

worked the operation since 1920, originally with a scraper plant which, however, had not been successful.

In addition, two men ground sluiced preparatory to the installation of a small hydraulic plant in 1929 on No. 23 above Discovery claim at the confluence of Gilliland with Wade Creek.

The original gold discovery which had been made on Franklin Creek in 1886 still produced gold 43 years later. Six miles in length this creek flowed almost due east and joined the South Fork of the Fortymile River about 10 miles in an airline above the main forks. There, men worked the Creek in the 1928 season and employed the "shoveling-in" type operation.

Chicken Creek, about four and one half miles in length, wound its way roughly west of south and entered Mosquito Fork of the Fortymile River about a mile above the confluence of Mosquito and Dennison Forks. Stonehouse Creek and Myers Fork, two sizeable tributaries, joined Chicken Creek from the northwest and made the upper valley wide and open, while the lower part was flat and gradually merged into the wider valley floor of Mosquito Fork. It was there that the airfield had been built.

The town of Chicken nestled about one mile above the mouth of Chicken Creek. No miners worked the location in the 1928 season, although some drift mining was performed in the 1927-28 winter on claim No. 5 1/2 below Discovery and some prospecting took place in the summer of 1928. In that same year a large company had taken options on the producing ground on Chicken Creek and apparently planned to install a dredge in the near future.

Two hydraulic plants operated on Myers Fork in 1928, and obtained approximately $.30 of gold from each square foot of gravel processed. A two-mile long ditch originated on Chicken Creek above the mouth of Stonehouse Creek and supplied the water.

In addition, some miners worked individually. Two men performed open-cut placer mining on Stonehouse Creek. One man "shoveled-in" creek gravel, and farther upstream, still another man mined bench gravel on the east side of the valley. Each square foot of gravel yielded $.40 of gold. During the same summer, three men operated a hydraulic plant on Lost Chicken Creek. They mined two cuts aggregating approximately four miles long situated west of Chicken Creek.[22]

G. LARGE OPERATIONS (1928-1941)

By 1929 the Walker Fork Gold Corporation had emerged as the largest operator with its dragline scraper. In the same year the Alaska Consolidated Gold Corporation under the management of a Lee Steele acquired large holdings on Dome and Chicken Creeks with plans for large-scale hydraulic mining. Smaller operators worked the Fortymile and Chicken River, Franklin Gulch and Napoleon Creek and various other locations.[23]

By 1933 it had become apparent to most observers that profitable placer mining required the development of large enterprises, the use of expensive equipment such as dredges and the utilization of relatively low grade deposits coupled with careful cost control. When the Federal government raised the price of gold from its fixed price of $20.67 to $35.00 an ounce in 1934, Alaska's mining industry received a tremendous stimulus. This rapidly became apparent in an increase in mining activity. From 1935 onward gold production increased each year as more and more dredges were installed.

In the Fortymile district, parts for the planned for Walker Fork Gold Corporation dredge finally arrived early in 1934. Quickly assembled, it began production by about September first of that year.

In that year about one-seventh of the placer production came from drift mines, while dredges, hydraulic, and open-cut mining produced the rest, reflecting the consolidation of the mining ventures. In addition, however, the district continued to provide opportunities for the individual enterpreneur equipped solely with the primitive and time-honored rocker.[24]

Gold production in 1935 amounted to more than double the amount of 1934, namely $121,000 as opposed to $59,000. The sharp increase was due partly to the increase in the price of gold and the fact that the Walker's Fork Gold Corporation dredge had worked its first full season. Even smaller producers, however, had been stimulated by the New Deal's gold price increase, and somewhat over 50 outfits, most employing only 1 or 2 men each, worked most of the creeks in the district. Also, preparations were under way for the installation of another dredge on Mosquito Fork by the Alaska Gold Dredging Corporation.[25]

Additionally, during the spring of 1935 the North American Mines, Inc. Company of Boston bought the old "Mulvain Dredge" and moved it with horses and sleds from its old location on the Fortymile River to Jack Wade Creek. The new owners replaced the hull with new timbers and installed a new bucketline. Transporting the new buckets, each weighing some 700 pounds, proved to be tricky. Transported from Cordova to Chitina on the Copper River and Northwestern Railroad, they were thence taken by truck to Chistochina and from there a Travelair plane flew them, one at a time, to Lassen Field near Jack Wade, the present Walker Fork campground. North American Mines, Inc. of Boston operated the dredge until 1938 when the company sold out to the Yukon Placer Company, owned jointly by partners Chuck Herbert, Harold Smith, Leonard Stampe, Earl Eliingen and Fred Parker. [26]

In 1936, three dredges and approximately 48 one to two men outfits extracted some $158,500 worth of gold from the Fortymile district, an increase of $37,500 over the preceding year. The small outfits, however, barely made more than modest grubstakes. In 1938 two dredges, the newly installed one on Canyon Creek which belonged to the Boundary Dredging Co. and the

North American Mines, Inc. dredge on Jack Wade Creek accounted for the bulk of the production. The dredges of the Alaska Gold Dredging Co. on Mosquito Fork and the Walker Fork Dredging Co. on Walker Fork were idle in 1938 and 1939. Both companies had encountered financial difficulties and the Northern Commercial Co. had taken over their holdings in November and December of 1938.[27] In 1940 the Wade Creek Dredging Co. replaced the old steam with a diesel engine. In 1941 the digging ladder broke, was repaired, and soon broke again and caused the shut-down of the dredge. In 1942 the Federal Government forced the company to lease its bulldozers to contractors for the war effort.

During its active years, however, the dredge only required a crew of three, a winchman, oiler, and fireman, who each received approximately $7.00 per day in wages. Before the installation of the diesel engine, however, some 30 men busily cut some 12 cords of wood daily to feed the rapacious appetite of the boiler. The dredge usually operated from June through September, and required some 1,500 cords of wood for which the operators paid approximately $6.00 per cord. During the season the dredge operated around the clock for roughly 10 days. At that point the sluice boxes were cleaned up and the gold

removed. The owners considered a $30,000 return on a 10-day run as good, approximately $20,000 as close to average.[28]

Not only did gold production decline sharply from a high of $341,000 in 1939 to $276,000 in 1940, but a number of other changes occurred. As previously mentioned, the Wade Creek Dredging Co. on Jack Wade Creek operated under its new owners. In addition, the Fairbanks Department of the United States Smelting, Refining & Mining Co. acquired the holdings which formerly had belonged to the Alaska Gold Dredging Co. The properties were located near the junction of Chicken Creek and North Fork. The new owners immediately began to prepare the ground for dredging in the 1941 season.

In addition to the Jack Wade and Canyon Creeks dredges, three or four other placer operators also worked on Jack Wade Creek. Of these the Central Development Syndicate reported the largest production. As usual, small operators and individual sourdoughs made a modest living.[29]

H. THE WAR YEARS (1941-1945)

In 1941 Alaska stood on the eve of tremendous social, economic and political upheavals. In the early summer of 1941, large defense construction programs began in various places throughout the territory. High wages paid even to unskilled workers began to lure men from many occupations, including miners. As a consequence, mines considerably scaled down their operations throughout Alaska.

When the Japanese attacked Pearl Harbor on December 7, 1941, America suddenly found itself at war. In the summer of 1942, enemy forces invaded and occupied Attu and Kiska in the Aleutian Chain. America's pride was hurt. The United States sent 10,000 soldiers, divided into 7 army engineer regiments and supported by 6,000 civilian workers under the direction of the United States Public Road Administration, to start construction of the ALCAN (Alaska-Canadian Military Highway) in the spring of 1942. The highway was completed with incredible speed, and in November of 1942, was formally opened for traffic.[30]

While the ALCAN Highway rapidly took shape, thousands of other American soldiers came to Alaska to participate in its defense and prepare for the recapture of Kiska and Attu. Civilian workers toiled practically around the clock to build bases at various locations in Alaska. After much preparatory work, Attu island fell into American hands after fierce fighting at the end of May, 1943. On August 15, 1943, American troops made an amphibious landing on Kiska but discovered that the enemy had left the island at the end of July by submarines.[31]

The war and the changes it brought about adversely affected mining activities. Construction needs diverted much of the mobile equipment, such as draglines, tractors and grading machines used in the mines. In October of 1942 the War Production Board delivered what amounted to a deathblow to the gold mining industry when it declared that, with few exceptions, gold extraction was regarded as nonessential to the war effort. The WPB called for the rapid suspension of gold mining and hurried the process when it deprived operators of further priorities for supplies and equipment. Most of the larger operators, therefore, promptly quit. Geologists now stepped up their efforts to locate strategic materials. Yet despite all this, the Fortymile still

yielded $218,000 of gold in 1941 and $205,000 in 1942, most of it produced by the two dredges in the district.[32]

By 1944, the effects of the war had become fully apparent. The total value of Alaska's mineral output had dropped to $7,032,000, substantially what it had been at the turn of the century. Gold mining, for so long the leading industry and which, in 1906, had yielded over a million ounces had declined to 49,296 ounces valued at $1,725,360 in 1944. For all practical purposes, the gold mining industry had become a war casualty despite the fact that a few of the dredges had continued to operate.

Yet by the end of 1944 there existed the hope that gold mining would resume in the not too distant future and once again become an important factor in Alaska's economy. Nine floating connected-bucket dredges operated in 1944, an increase of two over 1943. The War Production Board had issued permits to about 70 placer-mining and 8 or 10 lode-mine operators. Additionally, the War Production Board had authorized the employment of about 775 miners, while small mines did not even require a license to start work.[33]

I. POST-WAR ACTIVITY (1945-Present)

By 1945 mineral production had increased to $10,210,000 from $6,903,000 in 1944. Some 13 dredges and 16 draglines operated at least part of the 1945 season, among them the Wade Creek Dredging Mining Co. which then could be reached by a new caterpillar road winding its way north from the Alaskan Highway at Tanacross to the Fortymile district. The war-connected upsurge in wages and the fixed price of gold, however, had made profitable mining extremely difficult even though the Federal Government had rescinded the War Production Board Limitation Order L-208 on July 1 of 1945. Despite these and other difficulties gold had regained its predominant position in the Alaska mining industry in 1946. Some 226,781 fine ounces of gold brought $7,937,335, a substantial amount of money although far short of the prewar gold production.[34]

In the Fortymile district some 19 placer mines operated in 1946. The two largest producers, the Yukon Placer Mining Co. on Walker's Fork Creek and the Wade Creek Dredging Co. on Jack Wade Creek recovered 3,156 ounces of gold, 474 ounces of silver and 2,901 ounces of gold and 469 ounces of silver, respectively.

Only 18 placer mines operated in 1947, and the Yukon Placer Mining Co. and the Wade Creek Dredging Co. again emerged as the largest producers with 4,839 ounces of gold, 712 ounces of silver, and 3,169 ounces of gold and 685 ounces of silver, respectively, a total of 8,008 ounces of gold and 1,397 ounces of silver for the two companies out of a district grand total of 10,953 ounces of gold and 1,980 ounces of silver. [35]

In 1948, some 25 placer mines produced 4,980 ounces of gold and 909 ounces of silver worth $175,123. The Yukon Placer Mining Co. worked with bulldozers and sluice boxes on Walker's Fork and bucket-line dredges on Poker and Canyon Creeks. The Wade Creek Dredging Co. used bulldozers and sluice boxes on Jack Wade Creek and George E. King mined on Turk Creek. Attwood and Granger operated bulldozers and hydraulic equipment on Stonehouse Creek as did the Uhler Creek Mining Co. on Jack Wade Creek. The Franklin Mining Co. worked bulldozers on the creek by the same name. Additionally there were numerous smaller outfits which mined gold in the district. [36]

Despite a general decline in the production of gold for the second consecutive year in 1949, gold still continued to rank first in value among all mineral commodities. Despite the decrease, total mineral production of Alaska amounted to $15,302,000 to which gold contributed some $8,029,560. Most gold mine operators battled the increasingly difficult task of balancing the high cost of mining, labor and supplies against the fixed price of gold, unchanged since 1934. Despite readily available labor, the narrowing margin between high operating costs and the fixed price of $35.00 per ounce allowed only the most efficient enterprises to continue work.[37]

The conditions of the gold mining industry had become precarious by 1951, and gold production continued to decline, constituting some $8,387,295 out of a total value of mineral production of $19,569,000. Only eight placer mines worked the Fortymile district in the 1951 season. Although the Wade Creek Dredging Co. ranked first in total output, it discontinued operations at the end of the season and planned to move into Canada because of more favorable conditions. The Franklin Mining Co. worked dragline-bulldozer-hydraulic equipment on claim 2 below Discovery on Chicken Creek and ranked second in production.

Other operators who recovered 100 or more ounces by using a combination of equipment were, in order of their production:

Uhler Creek Mining Co. on Stonehouse Creek
Squaw Creek Mining Co. on Squaw Creek
William Meldrum on Chicken Creek
Purdy Bros. on claim 2 on Myers Fork.[38]

In 1953 gold again temporarily topped the list of minerals mined in Alaska, amounting to $8,882,405 out of a total mineral production valued at $24,252,000. Coal ran a close second with a value of $8,451,542 while sand and gravel ranked third at $5,079,681 while various other minerals made up the difference.

Little had changed in the Fortymile district, except that the United States Smelting, Refining & Mining Co. had begun to strip at Chicken on Chicken Creek in preparations for possible dredging operations. The Franklin Mining Co. produced the largest amount of gold. Bulldozers and a hydraulic giant delivered gravel to the sluice boxes, while a dragline removed and stacked the tailings. Other smaller operators who used dragline-bulldozer-hydraulic combinations in 1953 were, in order of their production:

Purdy Bros. on Myers Fork and Atwater Bar
(South Fork of the Fortymile River)
George F. Robinson on Wade Creek
William Meldrum on claim No. 1 on Stonehouse Creek
Jack Wilkey on Squaw Gulch

Vern Weaver & John Rambaud on Napoleon Creek
Frank Barrett on claim No. 5 above Discovery on Stonehouse Creek
Jack LaCross on Turk Creek.[39]

Although gold still occupied first place with $8,725,290 out of a total mineral production with a value of $25,412,000 in 1955, the year's big news involved the accelerated tempo of exploration activities, particularly for petroleum and natural gas. In the Fortymile district the LaCross Mining Co. on Walker Fork, consisting of the partners Jack LaCross and Fred Whitehead, emerged as the season's largest producers with 956 ounces of gold and 137 ounces of silver derived from approximately 20,000 cubic yards of gravel. The company used three hydraulic giants to remove the overburden and two TD 18 bulldozers to deliver the gold-bearing gravel to the sluice boxes. Other operators in the district, in the order of their productivity, included:

The Vern Weaver and John Rambaud partnership on Napoleon Creek
Engbret Johanson on the Gold Hill claims at Ingle Creek
William Meldrum on Chicken Creek
Chicken Hill Mines, Inc. on Lost Chicken Hill
Squaw Creek Mining Co. on Canyon Creek
Purdy Bros. on Myers Fork
Dan Manuske on Ingle Creek
Robert McComb at the South Fork of the Fortymile River
George F. Robinson on Jack Wade Creek.[40]

In 1959, gold still lead Alaska's mineral production with a value of $6,262,000 out of a total of $20,495,000. Coal came closest with a value of $5,869,000. The United States Smelting, Refining, and Mining Co. was the leading gold producer in the Fortymile. The company had moved its Pedro Creek dredge by truck over the Alaska Highway from Fairbanks to the new location. The move began on July 4, 1959 and dredging operations commenced toward the close of the same season. Nine mines produced 1,625 ounces of gold and 310 ounces of silver, worth $57,156. The lion's share had been produced by the United States Smelting, Refining, and Mining Co.'s new dredge. Other producers in the district quickly became insignificant in comparison.[41]

While still constituting some $5,887,000 out of a total mineral production of $21,860,000 in 1960, gold had become rather insignificant by 1961. Petroleum and natural gas production took first place in 1961 with a value of $17,647,000, coal ranked second with $5,868,000 while gold, with a value of $3,998,000 ranked even behind sand and gravel with a value of $4,185,000. Although five outfits produced some 5,869 ounces of gold and 1,256 ounces of silver worth $206,576 in the Fortymile district, the U.S.S.R. and M. Co.'s dredge again washed the largest amount of gold.

Gold production continued its steady decline and in 1966, with a value of just under one million dollars, had reached a 77 year low, and the lowest physical volume since 1886. In 1967, the United States Smelting, Refining, and Mining Co. had become the only major gold dredge operator left in Alaska. In its annual report to stockholders in that year, the company reported that

> normal operating conditions and costs were experienced at both Hogatza and Chicken Creek; however, production underruns occurring at Chicken Creek made further dredging at that location economically unfeasible. Accordingly, dredging operations at Chicken have been discontinued and the dredge was put in dry-dock.

With that rather dry and factual announcement, gold mining, for so many years the major component of Alaska's mining industry and the stuff of which romance was made, had died for all practical purposes.[42]

J. RECOMMENDATIONS

The field work for the Fortymile historical study was to have been completed by the end of April, 1973. The weather, however, did not cooperate. Interior Alaska is experiencing a rather wet summer, so it was not until the middle of July that the weather cleared sufficiently to conduct a reconnaissance study of the area.

Alden Sievers, from the Fairbanks Office of the Bureau of Land Management, and the investigator departed Fairbanks for Chicken by light plane on July 12 at five p.m. We arrived at Chicken an hour later and Mr. Sievers utilized the remainder of the evening to familiarize the investigator with the immediate surroundings of the Chicken area. We spent the night at the fire control station at Chicken. A helicopter was to arrive at 1 p.m. on July 13th. We therefore visited those areas accessible by vehicle during the morning hours of the 13th.

The Jack Wade dredge, located just off the Taylor Highway, has been inoperative for many years. Time and vandalism have left the dredge in poor shape, and apparently the question

of who owns this piece of machinery is not quite clear either. A Mr. George Robinson has been mining for a good many years on the creek and holds extensive mining claims in the area, including the ground on which the dredge stands. We were unable to talk to Mr. Robinson since he had gone to town for the weekend.

Mr. Sievers and the investigator met the helicopter at the appointed time and set out to visit the various creeks where mining used to take place. We followed the south fork of the Fortymile River and set down at the A. D. Cowden Camp where men used to be housed who operated the dredge a little way down the river. A number of cabins of this old camp appear to be in fairly good shape, and there are also the ruins of several other structures. From the Cowden camp we proceeded to the Harry Eckstrom cabin on the bank of the south fork of the Fortymile River and then on to Napoleon Creek, Franklin, Uhler and Steele Creeks. The latter is occupied by a Mr. Neil Thurneau, his wife and child. Mr. Thurneau conducts mining operations and plans to operate recreational horseback packtrips into the area. Steele Creek once was quite a little settlement. It was the site of a roadhouse and post office as well as a general store,

the J. A. Kemp & Co., dealers in General Merchandise, Hay, Grain and Produce. It was the crossroads of a wagon trail which came from Wade and went on to Dome Creek and Eagle. Freighters utilized horses and crossed the river by a ferry which the old Alaska Road Commission maintained.

We returned to Chicken late in the evening. Mr. Sievers returned to Fairbanks that night and on July 14th Mr. Jerry Timmons, the Area Manager of the Fortymile resouce area, and the investigator spent a full day visiting the remaining old mining sites in the Fortymile area. The helicopter followed the south fork of the Fortymile and then went up the north fork. We stopped and investigated the cabin belonging to Mr. Paul Bytell, now the caretaker of F. E. properties at Chicken. Mr. Bytell did some mining and trapping in this location many years ago. The cabin seems to be in pretty good shape.

Next we flew up Hutchinson and Montana Creeks and again stopped to investigate and photograph various old mining camps. We followed the old military telegraph line and visited a few of the old telegraph maintenance station ruins. The helicopter followed Champion and Mission Creeks and brought us into

Eagle, one of the old supply centers of the Fortymile area. A few hours spent in that old settlement acquainted the investigator with the remains of Fort Egbert. From Eagle we followed the old wagon road over American Summit to Dome Creek and from there back to Eagle.

1. Historical Markers Along Highway

At present, tourists driving the Taylor Highway from either Dawson to Tanacross or vice versa have no idea about the historic significance of the Fortymile area they are traversing. Historical markers should be erected at appropriate intervals pointing to the distant creeks where mining took place. For example, at such and such a milepost on the Taylor Highway there should be a historical marker which points in the direction of Franklin Creek. It should alert visitors and Alaskans alike to the fact that there miners discovered the first gold in interior Alaska. The exact contents of these markers will be determined in the future, but each should have a sketch map; distances and direction from the highway; a capsule history of the creek in question and production figures

over time, if at all possible. These markers should be placed wherever appropriate.

2. Historic Cabins

River traffic has increased substantially over the last few years. Higher incomes, more leisure and a concern for the environment have led many individuals to take wilderness vacation trips. The Fortymile River and its tributaries lend themselves ideally to canoeing and kayaking. All along the river and its tributaries are remains of old mining camps and communities. Wherever cabins are in reasonably good shape and could be restored as shelters, this should be done. Appropriate signs should explain the history of such locations. Restored cabins should be marked as well, giving previous ownership and a capsule history.

In most locations the remaining buildings are in such poor shape that restoration is not financially feasible nor practical. At such locations, new shelter cabins could be erected at little cost. The old buildings should be

allowed to decay. Again, markers should explain the historical significance.

3. Historic Relics

There are few relics worth salvage in the whole area, but those which are should be picked up as promptly as possible and arranged in an historical exhibit at a central location, either at Eagle or Chicken. The longer this is put off, the fewer items will remain. No area is inaccessible any longer and many Americans are passionate collectors.

4. Jack Wade Dredge

Whether or not it would be financially feasible to restore the Jack Wade Dredge whould have to be determined. In any event, a historical marker should be placed near it. It should contain a capsule history of the dredge, production figures, if possible, length of operation and reasons for abandonment. It is imperative that one of the dredges easily accessible from the highway be restored and proper-

ly marked. Dredging played a very important role in the history of the Fortymile area. One such dredge could be symbolic for that particular phase of gold production. The inside of the restored dredge should contain a series of photographs, encased in plastic, depicting dredging operations from early times until the present. It might be possible to install speakers and tape equipment which could explain to tourists the operation of dredges and contain the many sounds these machines made. It should be possible to operate such an exhibit during the tourist season by utilizing the services of the recreation aide stationed at Chicken.

5. Inventory of Historic Sites and Values

Because of the importance of the historical resource in the Fortymile Area, a full inventory of historic sites and values should be undertaken.

For each site and value, the inventory should include:

A. A separate file

1. BLM Antiquities Inventory form
2. Maps (area and site)
3. Photos (from all sides, aerial, inside, etc.)
4. List of articles, items, structures
5. Any available historical narrative

B. Submission of copy of Antiquities Inventory form to State of Alaska Heritage Resource Survey.

C. Evaluation and submission of site to National Registry.

The University of Alaska, Department of History may be of help in identifying historical values.

The whole program would be moderate in cost--yet accomplish so much. A great deal of Alaskan history is slipping through our fingers and will disappear quickly. The State government has shown little inclination to get involved in historical restoration and marking. Disinterest on the part of the administration coupled with tremendous demands on limited resources leave historical restoration and marking with the BLM and the Park Service. Speed is essential.

K. APPENDIX

APPENDIX A

FORTYMILE DISTRICT
Gold Production, 1886-1942

Date	Value of Gold	Number of People Employed (approx.) Winter	Summer
1886-1903	$4,000,000 (estimated)		
1904	307,000		
1905	256,000		
1906	204,000		
1907	140,000		
1908	140,000		
1909	225,000		
1910	200,000		
1911	200,000		
1912	213,000		
1913	100,000		
1914	50,000		
1915	50,000		
1916	50,000	68	
1917	80,000		93
1918	75,000		
1919	41,000	20	
1920	40,000	15	30
1921	50,000	33	100
1922	50,000		52
1923	53,500		
1924	31,800		
1925	39,800		
1926	60,000		
1927	37,000		50
1928	79,100		
1929	68,000		50
1930	37,600		40
1931	66,000		50
1932		30	70-80
1933	17,000		50
1934	59,000		70
1935	121,000		110
1936	158,000		105
1937	166,000		
1938	234,000		
1939	341,000		
1940	276,000		
1941	218,000		
1942	205,000		

APPENDIX B

FORTYMILE DISTRICT
Mineral Production, 1946-1961

Year	No. of Mines	Gold (Fine Ounces)	Silver (Fine Ounces)	Total Value
1946	-----	6,057	943	
1947	18	10,953	1,980	$385,147
1948	25	4,980	909	$175,123
1949	18	7,114	754	$249,672
1951	8	2,968	590	$104,414
1953	8	1,277	281	$ 44,949
1955	10	1,738	280	$ 61,083
1957	7	951	189	$ 33,456
1959	9	1,625	310	$ 57,156
1961	5	5,869	1,256	$206,576

Source - Minerals Yearbook, 1946-1961

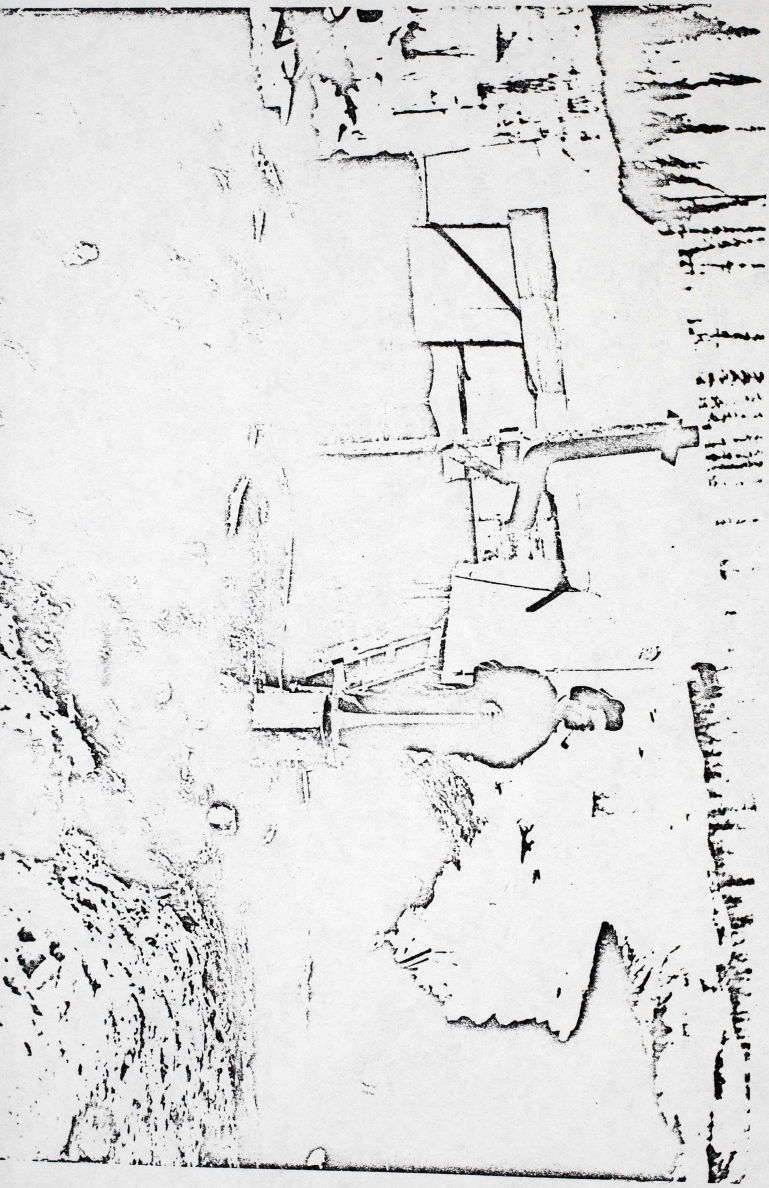
APPENDIX C

Placer Gold Production in Alaska, 1962-1970

Years	No. of Mines	Gravel Processed (cu. yds. in 1000's)	Troy Ounces	Value of Gold	Average Value Per cu. yd
1962	66	8,846	164,966	$ 5,773,810	$ 0.653
1963	72	6,264	98,362	3,442,670	0.550
1964	87	3,314	56,284	1,969,940	0.595
1965	69	1,785	38,686	1,354,010	0.758
1966	55	1,828	26,532	928,620	0.508
1967	50	1,888	22,948	803,000	0.425
1968	37	1,208	21,124	829,000	0.687
1969	30	1,081	21,146	878,000	0.812
1970	23	999	34,776	1,265,000	1.266

Source: Minerals Yearbook, 1966, Vol. III
Area Reports: Domestic
Minerals Yearbook, 1970, Vol. II
Area Reports: Domestic

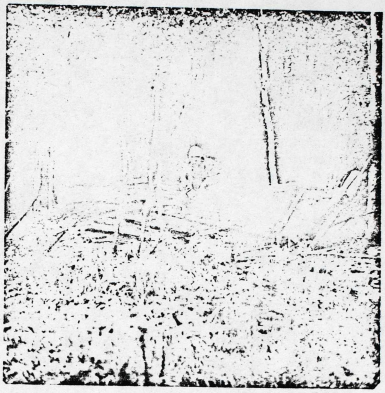
APPENDIX D: Photographs and Maps



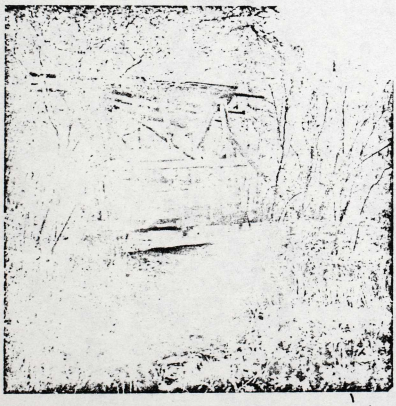
Miner on Jack Wade Creek.
(Photo copy from John M. Brooks Collection,
University of Alaska Archives)

Claim No. 4 on Dome Creek, Brydes & McMullen.
(Photo copy from Ralph McKay Collection,
University of Alaska Archives)

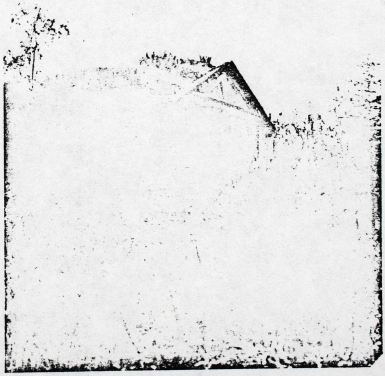
Dredge from Washington Iron Works, operating at Walkers Fork, 75 miles from Dawson, Alaska. (Photo copy from Lulu Fairbanks Collection, University of Alaska Archives)



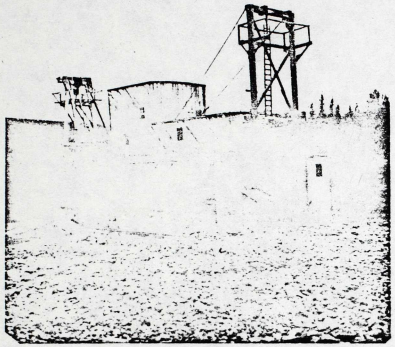
Cowden Camp; South Fork; old sleds; 1973

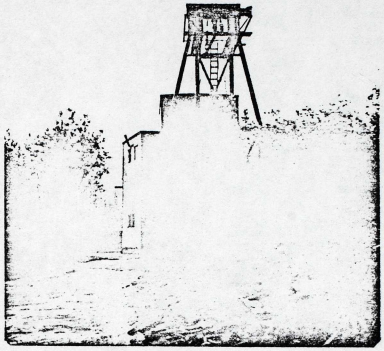


Cowden Camp; outhouse over "natural plumbing"

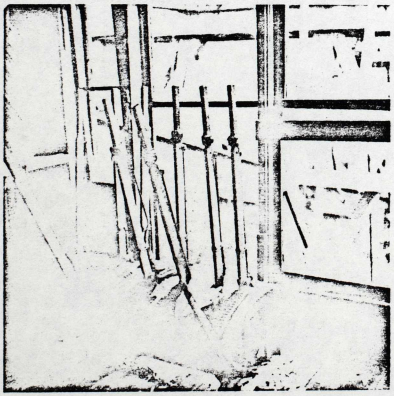


Ekstrom Cabin; South Fork

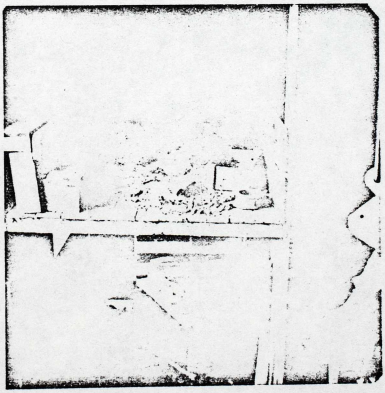




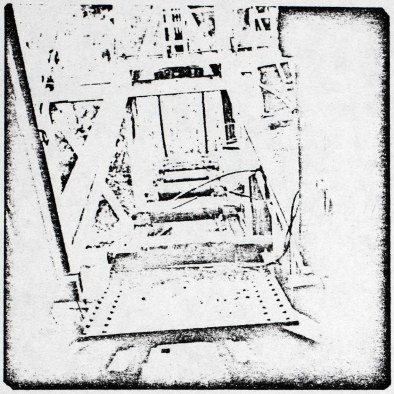
Walker Fork Dredge - Boundary 1973

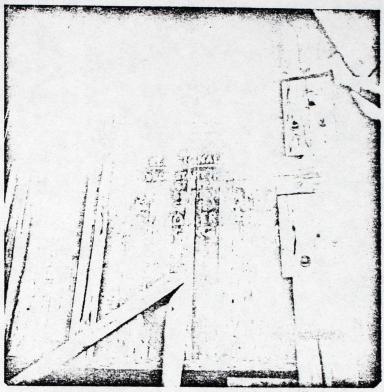


Control levers

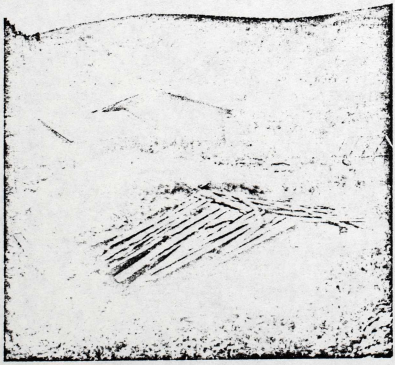


Tool and parts area

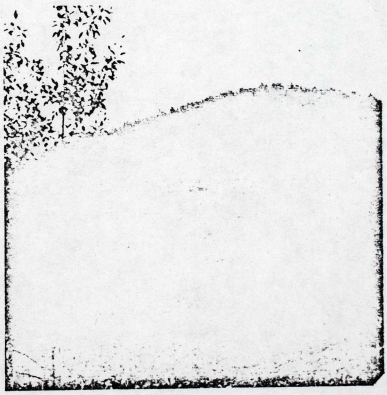




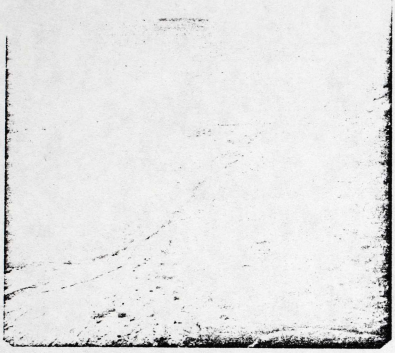
Walker Fork Dredge - Boundary

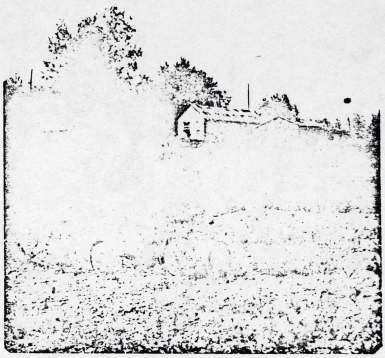


Franklin - South Fork

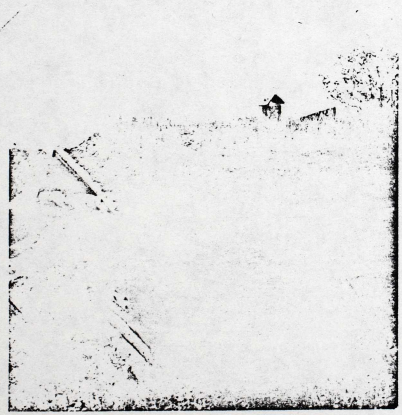


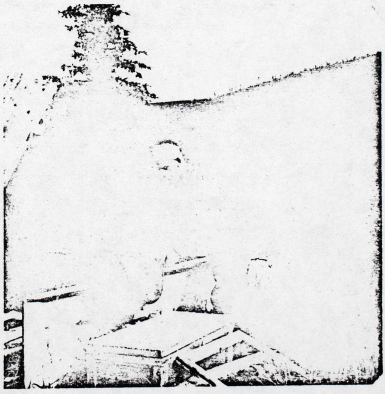
Napoleon Creek

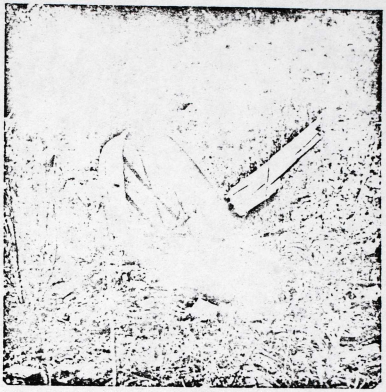




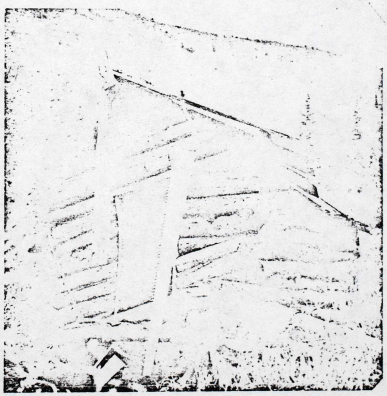
Dome Creek Camp - 1973 (O'Brian Creek)



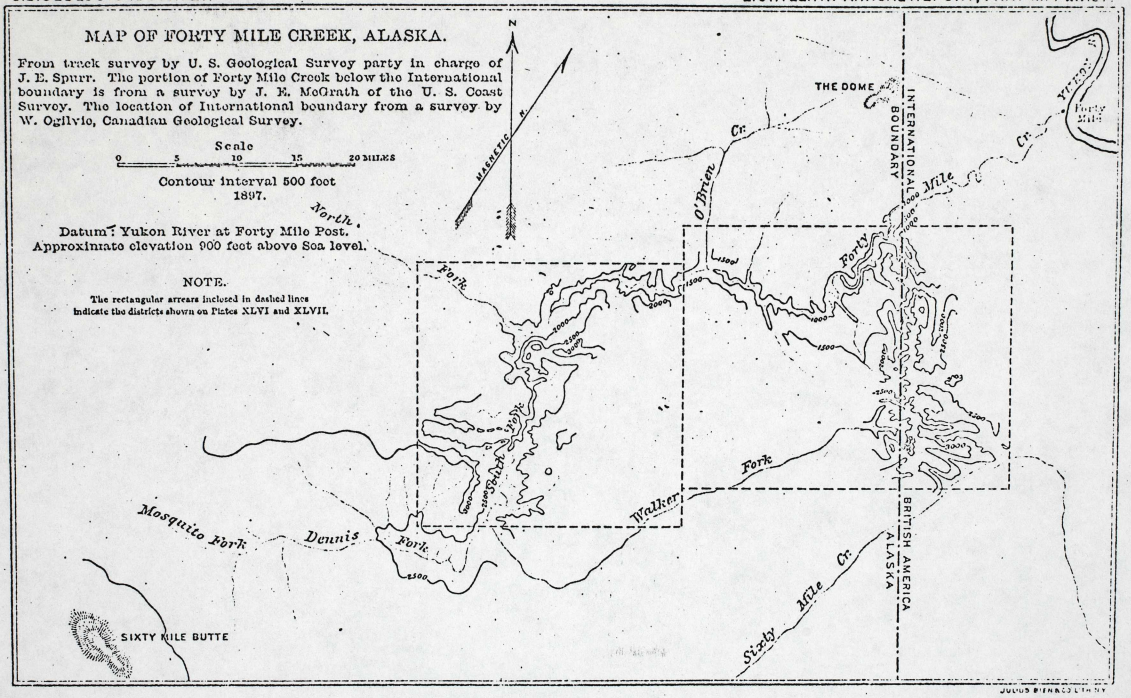




Dome Creek Area - 1973



Montana Creek, trib. of North Fork
1973


MAP OF FORTY MILE CREEK, ALASKA.
From track survey by U. S. Geological Survey party in charge of J. E. Spurr. The portion of Forty Mile Creek below the International boundary is from a survey by J. E. McGrath of the U. S. Coast Survey. The location of International boundary from a survey by W. Ogilvie, Canadian Geological Survey.
Scale
0 5 10 15 20 MILES
Contour interval 500 foot
1897.
Datum: Yukon River at Forty Mile Post.
Approximate elevation 900 feet above Sea level.
NOTE.
The rectangular arrears inclosed in dashed lines indicate the districts shown on Plates XLVI and XLVII.
N
MAGNETIC
THE DOME
INTERNATIONAL BOUNDARY
O'Brien Cr.
Forty Mile Cr.
North Fork
South Fork
Walker Fork
Mosquito Fork
Dennis Fork
Sixty Mile Cr.
BRITISH AMERICA
ALASKA
SIXTY MILE BUTTE
JULIUS BIEN & CO. LITH. N.Y.

APPENDIX E

Footnotes

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[2] L. M. Prindle, pp. 11-13.

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[8] Ibid., pp. 118-125

[9] Spurr and Goodrich, pp. 389-392.

[10] Spurr and Goodrich, pp. 118-133.

[11]Prindle, p. 14.

[12]Philip S. Smith, et al. Mineral Resources of Alaska: Report on Progress of Investigations in 1936, United States Geological Survey, Bulletin No. 897 (Washington: Government Printing Office, 1939), pp. 133-136, 157-158; Philip S. Smith, et al., Mineral Resources of Alaska: Report on Progress of Investigations in 1928, United States Geological Survey, Bulletin No. 813 (Washington: Government Printing Office, 1930), pp. 125-129.

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[14]Ernest Gruening, The State of Alaska (New York: Random House, 1954), pp. 107-108.

[15]Alfred H. Brooks, et al., Mineral Resources of Alaska: Report on Progress of Investigations in 1909, United States Geological Service Bulletin No. 442 (Washington: Government Printing Office, 1910), p. 244.

[16]"Jack Wade Dredge, Mile 87 Taylor Highway, Fortymile Resource Area", notes supplied by the Fairbanks District Office of the United States Bureau of Land Management, April, 1973.

[17]Alfred H. Brooks, et al., Mineral Resources of Alaska: Report on Progress of Investigations in 1910, United States Geological Service Bulletin No. 480 (Washington: Government Printing Office, 1911), pp. 168-171.

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[22]Philip S. Smith, et al., Mineral Resources of Alaska: Report on Progress of Investigations in 1928, U.S.G.S. Bulletin No. 813 (Washington: Government Printing Office, 1930), pp. 130-39.

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[26]"Jack Wade Dredge, Mile 87 Taylor Highway, Fortymile Resource Area", notes supplied by the Fairbanks District Office of the United States Bureau of Land Management, April 1973.

[27]Philip S. Smith, Mineral Industry of Alaska in 1936, U.S.G.S. Bulletin No. 897-A (Washington: GPO, 1938), pp. 45, 51; Philip S. Smith, Mineral Industry of Alaska in 1937, U.S.G.S. Bulletin No. 910-A (Washington: GPO, 1939), pp. 45, 54; Philip S. Smith, et al., Mineral Resources of Alaska: Report on Progress of Investigations in 1938, U.S.G.S. Bulletin No. 917 (Washington: GPO, 1942), pp. 42, 53-54; Philip S. Smith, et al., Mineral Resources of Alaska: Report on Progress of Investigations in 1939, U.S.G.S. Bulletin No. 926 (Washington: GPO, 1942), pp. 39, 48.

[28]"Jack Wade Dredge, Mile 87 Taylor Highway, Fortymile Resource Area", notes supplied by the Fairbanks District Office of the United States Bureau of Land Management, April, 1973.

[29]Philip S. Smith, et al., Mineral Resources of Alaska: Report on Progress of Investigations in 1940, U.S.G.S. Bulletin No. 933 (Washington: GPO, 1944), pp. 4-15, 58, 44-45.

[30] United States Army, Alaska, The Army's Role in the Building of Alaska. Headquarters, United States Army, Alaska: Public Information Officer, Pamphlet 360-5, April 1969, pp. 81-85.

[31] Ibid., pp. 88-95.

[32] Philip S. Smith, Mineral Industry of Alaska in 1941 and 1942, U.S.G.S. Bulletin No. 943-A (Washington: GPO, 1944), pp. 3-12.

[33] H. Foster Bain, "The Mineral Industry of Alaska", in Minerals Yearbook 1944, edited by C. E. Needham (Washington: Government Printing Office, 1946), pp. 219-25.

[34] H. Foster Bain, "The Mineral Industry of Alaska", in Minerals Yearbook 1945, edited by H. D. Keiser (Washington: Government Printing Office, 1947), pp. 220-25; Alfred L. Ransome, "The Mineral Industry of Alaska", in Mineral Yearbook 1946, edited by Allen F. Matthews (Washington: Government Printing Office, 1948), p. 1300.

[35] Alfred L. Ransome, "The Mineral Industry of Alaska", in Minerals Yearbook 1946, edited by Allan F. Matthews (Washington: Government Printing Office, 1948), pp. 1302-1307; Alfred L. Ransome, "The Mineral Industry of Alaska", in Minerals Yearbook 1947 (Washington: Government Printing Office, 1949), pp. 1284, 1291, 1294.

[36] Alfred L. Ransome, "The Mineral Industry of Alaska", in Minerals Yearbook 1948, edited by Allan F. Matthews (Washington: Government Printing Office, 1950), pp. 1381, 1387.

[37] Alfred L. Ransome, "The Mineral Industry of Alaska", in Minerals Yearbook 1948, edited by Allan F. Matthews (Washington: Government Printing Office, 1950), pp. 1381, 1387.

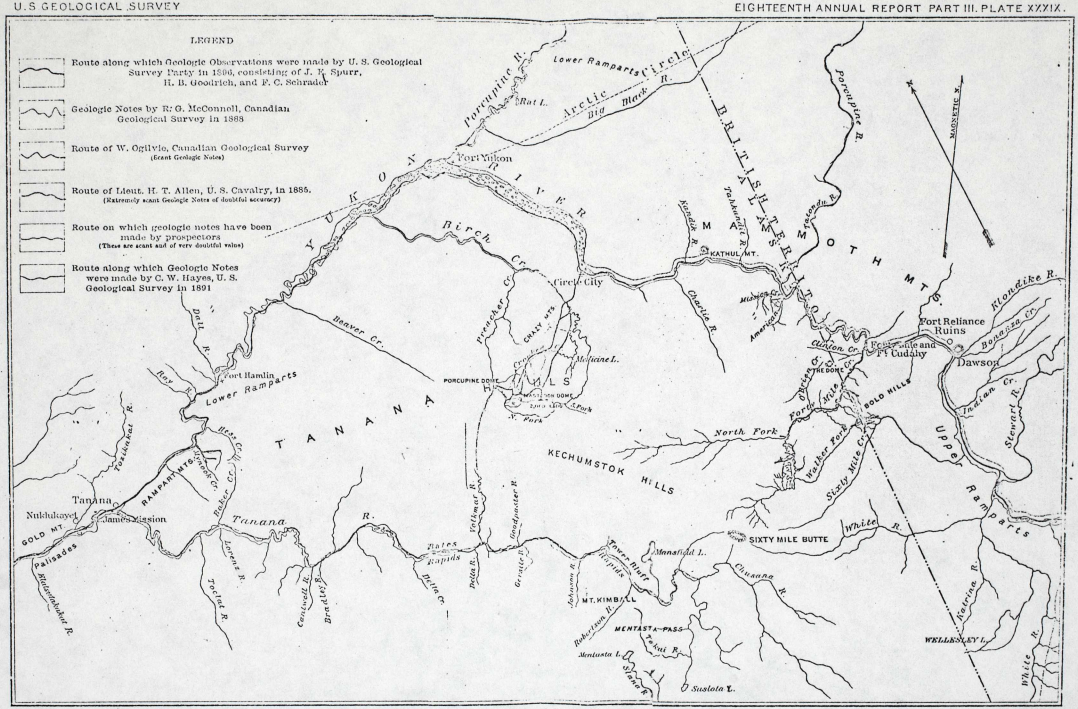
[38] Alfred L. Ransome & William H. Kerns, "The Mineral Industry of Alaska", in Minerals Yearbook 1951, edited by Paul W. McGann (Washington: Government Printing Office 1951), pp. 1385-86, 1402-03.

[39] William H. Kerns and Phil R. Holdsworth, "The Mineral Industry of Alaska", in Minerals Yearbook area Reports, Vol. III, 1953 (Washington: Government Printing Office, 1956), pp. 65, 94.

[40] William H. Kerns, Alvin Kaufman, Anthony Evans, Phil R. Holdsworth, "The Mineral Industry of Alaska", in Minerals Yearbook 1955, Area Reports, Vol. III (Washington: Government Printing Office, 1958), pp. 80-81, 109.

[41]Alvin Kaufman, Kevin Malone, Phil R. Holdsworth, Ruth Robotham, "The Mineral Industry of Alaska", in Minerals Yearbook, 1959, Area Reports, Vol. III (Washington: Government Printing Office, 1960), pp. 75, 86, 101.

[42]Kevin Malone, Donald P. Blasko, Phil R. Holdsworth, "The Mineral Industry of Alaska", in Minerals Yearbook, 1966, Area Reports: Domestic, Vol. III (Washington: Government Printing Office, 1967), p. 80; Kevin Malone, Donald P. Blasko, James A. Williams, "The Mineral Industry of Alaska", in Minerals Yearbook, 1967 (Washington: Government Printing Office, 1968), pp. 85-86.

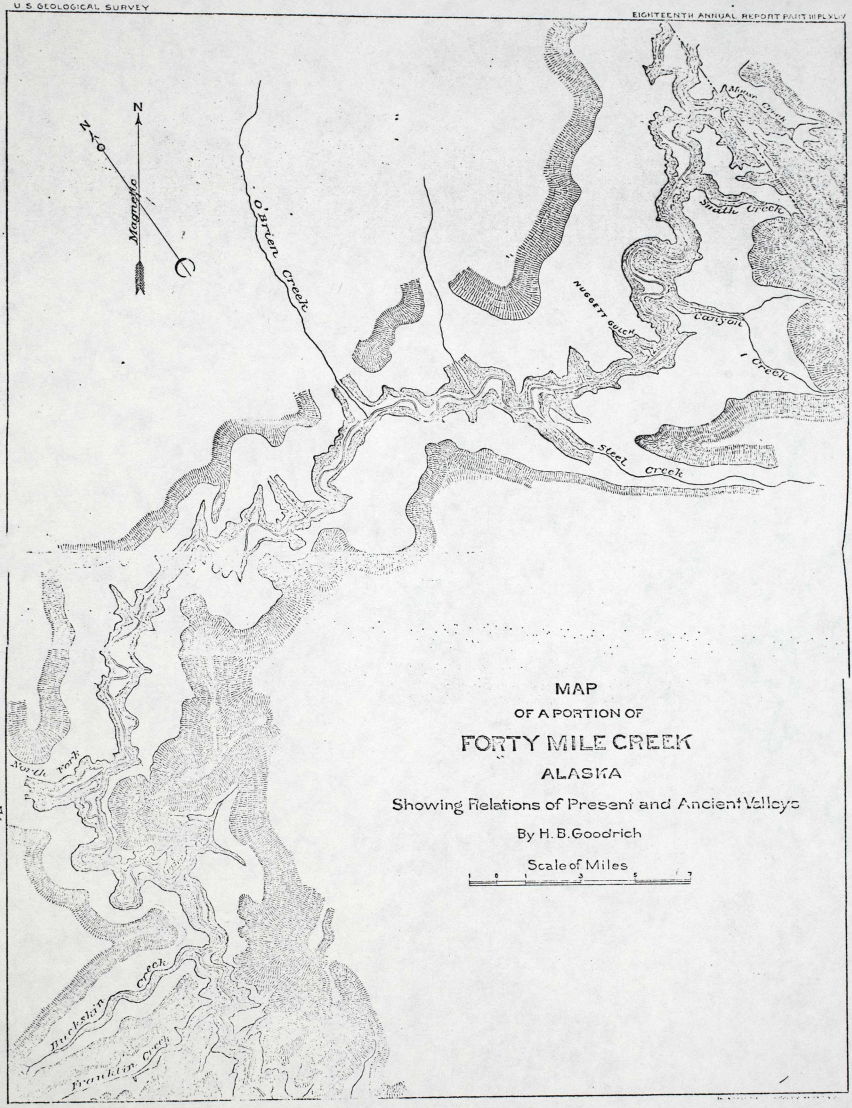


MAP OF A PORTION OF THE YUKON GOLD BELT AND ADJACENT REGIONS, SHOWING LINES ALONG WHICH GEOLOGIC NOTES HAVE BEEN MADE

Scale of Miles

20 10 0 20 40 60 80 100 120 140 160 180

JULIUS BIEN & CO LITH. NY.



MAP

OF A PORTION OF

FORTY MILE CREEK

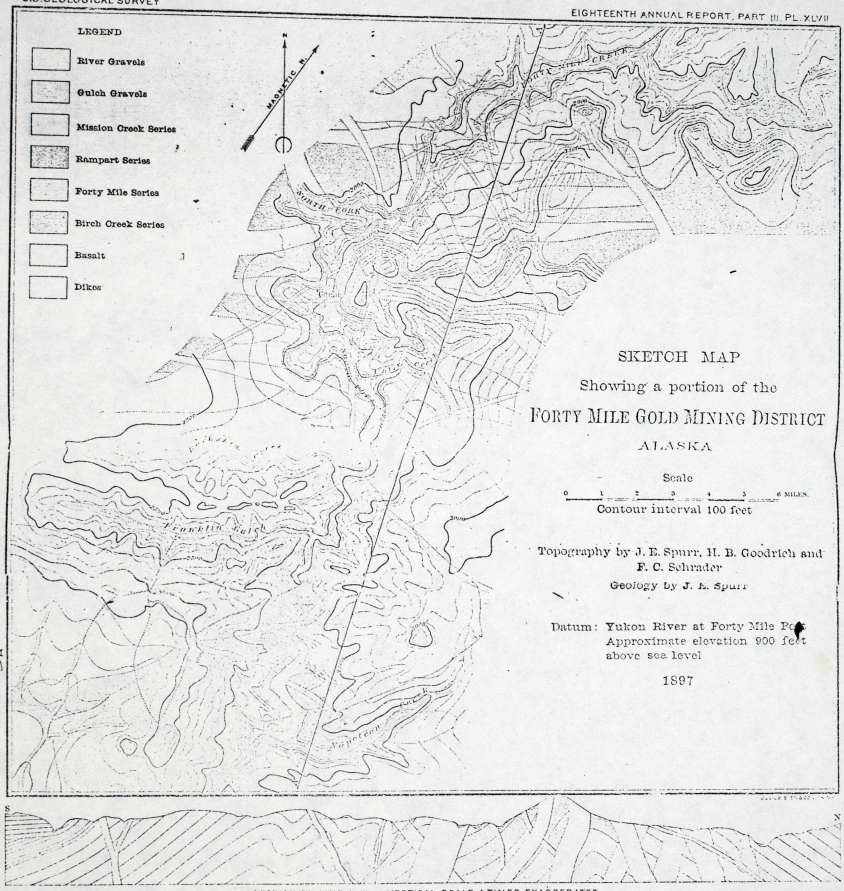
ALASKA

Showing Relations of Present and Ancient Valleys

By H. B. Goodrich

Scale of Miles

1 0 1 3 5 7



SECTION ON LINE A-A. VERTICAL SCALE 4 TIMES EXAGGERATED.